OcNOS OTN Version 1.0.3 Feature Matrix

Release Dates

December 2019 - 1.0.0

March 2020 - 1.0.1

August 2020 - 1.0.2

October 2020 - 1.0.3

For SNMP MIB support, see the MIB specifications at:	https://github.com/IPInfusion/OcNOS/tree/OCNOS-OTN-1-0-3-3/mibs
For additional information, please contact:	support@ipinfusion.com

Column Headings

Feature name	Name of the feature
Standard	IEEE or IETF standard upon which the feature is based, such as an RFC
Comment	Explanation of the feature
Exceptions	Exceptions to the cited standard or to standard practice
First Version Supported	Version when the feature became available
Platforms	Whether a given switch model supports the features
Yes	Validated
No	Not Validated/Not supported

Feature Name	Standard	Comments	Exceptions	First Version Supported		Edgecore Platform
				Platform No >>>		AS-7716-24SC
				Chipset >>>		Tomahawkplus
Layer 2						
Virtual Local Area Network (VLAN)						
Virtual LANs with Port-based VLANs	IEEE 802.1Q (2005)			1.0.0		Yes
Routed VLAN interface				1.0.0		Yes
Port based VLAN interface				1.0.0		Yes
Private VLAN						No
Ingress VLAN translation for C-VLAN and S-VLAN						No
Q-in-Q						No
Spanning Tree Protocol (STP)						
STP	IEEE 802.1D (2004)			1.0.0		Yes
Multiple Spanning Tree Protocol (MSTP)	IEEE 802.1Q (2005): Clause 13			1.0.0		Yes
Rapid Spanning Tree (RSTP)	IEEE 802.1D (2004): Clause 17			1.0.0		Yes
Rapid Per Vlan Spanning Tree (RPVST+)						No
Link Layer Discovery Protocol (LLDP)						
LLDP v2	IEEE 802.1ab 2009					No
Link Aggregation						
Link Aggregation Control Protocol (LACP)	IEEE802.3ad-2002			1.0.0		Yes
Static link aggregation group				1.0.0		Yes
Multi-Chassis Link Aggregation (Layer2 only)						
Multi-Chassis Link Aggregation (MCLAG)	IPI Proprietary					No
RSTP Support on MC-LAG	IPI Proprietary					No
MC-LAG L3 Gateway using VRRP	IPI Proprietary					No
Provider RSTP Support on MC-LAG	IPI Proprietary					No
Provider Bridging (PB)						
CVLAN/SVLAN translation (Also supports untag-pep/untag-cep option)	IEEE 802.1ad					No
svlan translation (Also supports cvlan modification option)	IEEE 802.1ad					No
Changing the outer tpid of provider network port	IEEE 802.1ad					No
Remarking COS, CFI for c-tag and s-tag at CEP and PNP	IEEE 802.1ad					No
Q-in-Q L3 Termination	IEEE 802.1ad					No
Other Layer 2 Features						
BPDU Protect				1.0.0		Yes
Root Guard				1.0.0		Yes
MAC Learning disable						No
Static MAC Address Assignment						No
Port based authentication with Radius server	IEEE 802.1x					No
TFO (Trigger FailOver)						No
Port Security						No
VLAN Cross Connect	IPI Proprietary					No

Feature Name	Standard	Comments	Exceptions	First Version Supported		Edgecore Platform
				Platform No >>>		AS-7716-24SC
Layer 3						
Address Resolution Protocol (ARP)						
Ethernet ARP	RFC 826			1.0.0		Yes
Path MTU						
Path MTU for IPv4 & IPv6	RFC 1191 (obsoletes 1063)					No
Routing						
Transmission of IP Datagrams over Ethernet	RFC 894			1.0.0		Yes
Congestion Control in IP/TCP Networks	RFC 896					No
IP Broadcast	RFC 919					No
IP Broadcast in the Presence of Subnets	RFC 922					No
IP Subnetting	RFC 950					Yes
Classless Inter-Domain Routing (CIDR)	RFC 1519					Yes
Requirements for IP Version 4 Routers	RFC 1812			1.0.0		Yes
Route Redistribution				1.0.0		Yes
VLAN Routing				1.0.0		Yes
Route-Map Continue						No
Static Route Discard						No
URPF						
Loose mode						No
Loose default mode						No
Strict mode						No
Border Gateway Protocol (BGP)						
Border Gateway Protocol, Version 4	RFC 4271			1.0.0		Yes
BGP Community Attributes	RFC 1997					No
BGP Route Flap Damping	RFC 2439	Support only for IPv4 and IPv6 unicast address family				No
BGP Route Reflection	RFC 4456	Support only for IPv4, IPv6 unicast, and EVPN address family		1.0.0		Yes
Autonomous System Confederations for BGP	RFC 5065	Support only for IPv4 and IPv6 unicast address family				No
Capabilities Negotiation with BGP-4	RFC 5492					No
Applications of BGP-4 in the Internet	RFC 1772					No
Protection of BGP Sessions Via the TCP MD5 Signature Option	RFC 2385					No
Route Refresh Capability for BGP-4	RFC 2918	Support only for IPv4 and IPv6 unicast address family				No
BGP Support for Four-Octet AS Number Space	RFC 4893					No
Subcodes for BGP Cease Notifications	RFC 4486					No
Graceful BGP Session Shutdown	draft-ietf-grow-bgp-gshut-06	Support only for IPv4 and IPv6 unicast address family	Section 4.2.2: IBGP g-shut not supported			No
BGPv4 MD5 Authentication	RFC 2385					No
BGP soft configuration						No
BFD Trigger for BGP						No
Route Target Filter		Support only for IPv4 and IPv6 unicast address family				No

Feature Name	Standard	Comments	Exceptions	First Version Supported	Edgecore Platform
				Platform No >>>	AS-7716-24SC
Next Hop Tracking		Support only for IPv4 and IPv6 unicast address family			No
BGP - Outbound Route Filter	RFC 5292	Support only for IPv4 and IPv6 unicast address family			No
BGP MIB	RFC 4273	Support only for IPv4 and IPv6 unicast address family		1.0.0	Yes
BGP Add Path	draft-ietf-idr-add-paths-15	Support only for IPv4 Unicast address family			No
Inter-VRF route leaking for user-defined VRFs		Supports ipv4			No
BGP Dynamic Peering			MD5 Authentication is not supported.		No
BGP Unnumbered	RFC 5549	Supports only for EBGP peering.	peer-group with unnumbered is not supported.		No
Routing Information Protocol (RIP)					
RIP Version 1	RFC 1058				No
RIP and RIP Version 2	RFC 2453				No
Increment Metrics When Sending Routes, Not When Receiving					No
RIP-2 MD5 Authentication	RFC 2082				No
Open Shortest Path First (OSPF)					
Open Shortest Path First Version 2	RFC 2328			1.0.0	Yes
Applicability statement for OSPF	RFC 1370				Yes
OSPF Opaque LSA	RFC 5250				No
OSPF Graceful Restart	RFC 3623				No
OSPF as PE/CE protocol for BGP/MPLS IP VPN	RFC 4577				No
Passive Interface Support for OSPFv2					No
OSPF Multiarea adjacency	RFC 5185			1.0.0	Yes
OSPF Not-So-Stubby-Area (NSSA) Option	RFC 3101				No
Bidirectional Forwarding Detection Trigger for OSPFv2				1.0.0	Yes
Link Local Signaling					No
Virtual link					No
OSPF Version 3 for IPv6 Support	RFC 5340		Authentication is not supported. Section 4.9: No support for multiple interfaces on the same link	1.0.0	Yes
Passive Interface Support in OSPFv3					No
Graceful Restart Mechanism for OSPFv3	RFC 5187				No
BFD Trigger for OSPFv3					No
Intermediate System-Intermediate System (ISIS)					
Use of OSI IS-IS for routing in TCP/IP and dual environments	RFC 1195				No
ISIS Exponential Back-Off of SPF					No
MIB for ISIS	draft-ietf-isis-wg-mib-09.txt				No
Bidirectional Forwarding Detection (BFD) with default and non-default VRF support					
BFD	RFC 5880			1.0.2	Yes

Feature Name	Standard	Comments	Exceptions	First Version Supported	Edgecore Platform
				Platform No >>>	AS-7716-24SC
BFD for IPv4 single hop	RFC 5881			1.0.2	Yes
Generic Application for BFD	RFC 5882				No
BFD Multi-hop (Software)	RFC 5883				No
BFD Over BGP / ISIS / OSPF / Static route		BFD over OSPF is qualified by QA		1.0.2	Yes
BFD Over Non-default VRF for static (IPv4 & IPv6) and OSPF v2 & v3		BFD Over Non-default VRF for OSPFv2 is qualified by QA		1.0.2	Yes
Virtual Router Redundancy Protocol (VRRP)					
VRRP Version 3 for IPv4	RFC 5798				No
VRRP Interface Tracking					No
VXLAN with EVPN					
VXLAN	RFC 7348				No
VxLAN - QoS					No
VxLAN-EVC					No
EVPN for VXLAN	RFC 7432, draft-ietf-bess-evpn-overlay-04				No
EVPN Multihoming for VXLAN	RFC 7432, draft-ietf-bess-evpn-overlay-04				No
EVPN IRB with VxLAN	draft-ietf-bess-evpn-inter-subnet-forwarding-03				No
Prefix Route for EVPN IRB for VxLAN	draft-ietf-bess-evpn-prefix-advertisement-09				No
VxLAN EVPN ARP/ND cache Ageing	draft-ietf-bess-evpn-proxy-arp-nd-02				No
Inter-VRF route leaking over VxLAN-EVPN					No
DHCP Relay Link Selection for VxLAN IRB Anycast Gateway					No
Multicast			IPv6 Multicast not supported on IPBASE SKU		
Protocol Independent Multicast (PIM)					
PIM - Sparse Mode (PIM-SM)	RFC 4601			1.0.0	Yes
Bootstrap Router (BSR) Mechanism for PIM	RFC 5059				No
Static Rendezvous Point Configuration				1.0.0	Yes
PIM - Dense Mode (PIM-DM): Protocol Specification (Revised)	RFC 3973				No
PIM - Source Specific Multicast				1.0.0	Yes
Support for More than 32 PIM Interfaces					No
Source-Specific Multicast for IP	RFC 4607			1.0.0	Yes
Source-Specific Protocol-Independent Multicast in 232/8	RFC 4608			1.0.0	Yes
Overview of Source-Specific Multicast (SSM)	RFC 3569			1.0.0	Yes
Internet Group Management Protocol (IGMP)					
IGMP, Version 2	RFC 2236			1.0.0	Yes
IGMP, Version 3	RFC 3376			1.0.0	Yes
IGMP report supporession for v1, v2 and v3					No
Considerations for IGMP Snooping Switches	RFC 4541		Multicast Router Discovery is not supported		No

Feature Name	Standard	Comments	Exceptions	First Version Supported	Edgecore Platform
				Platform No >>>	AS-7716-24SC
IGMP-based Multicast Forwarding ("IGMP Proxying")	RFC 4605				No
Quality of Service (QoS)					
General					
DiffServ Field in IPv4/IPv6 Headers	RFC 2474				No
Assign matching traffic flow to a specific queue					No
Hierarchical & Modular QOS					No
L2 and L3 QoS					No
Rate Limiting - 1/2/3 rate coloring, policing and marking					No
Shaping per queue, per port					No
Multiple hardware queues per port		8 UC and 8 MC queues.			No
WRR/WFQ/SP Scheduling Per Queue					No
WRED					No
802.1p remarking					No
Classification based on interface, ACL, DSCP, IP precedence, RTP, 802.1p, and VLAN					No
Trust IEEE 802.1p/DSCP					No
Remarking of bridged packets					No
Police Rate (SRTCM/TRTCM)					No
Minimum and Maximum Bandwidth Per Queue					No
Vlan based shaping					No
Priority Flow Control					No
Explicit Congestion Notification					No
Management					
Role based CLI management and access				1.0.0	Yes
CLI access via console, telnet and SSH				1.0.0	Yes
Authentication using TACACS+/radius client		TACACS+ is qualified by QA		1.0.0	Yes
Extended ping and traceroute				1.0.0	Yes
SNMP v1, v2, and v3				1.0.0	Yes
sFlow					No
ErrorDisable		Shutdown interface on fault detection			No
Debounce Timer					No
DHCP client				1.0.0	Yes
DHCP relay					No
NTP				1.0.0	Yes
Syslog				1.0.0	Yes
File Upload/Download using FTP/TFTP/SFTP/SCP				1.0.0	Yes
Management VRF		Only Host Protocols and LLDP support on "management" VRF.	Routing and switching protocols are not supported on "management" VRF.	1.0.0	Yes
Ansible		Sample scripts for L3CLOS supported.			No

Feature Name	Standard	Comments	Exceptions	First Version Supported	Edgecore Platform
				Platform No >>>	AS-7716-24SC
Yang	RFC 6020	Supported Yang modules: aaa, aclinterface, acl, authradius, auth, bgp, bridge, broadcom, cmm, dhcpc, dhcpsnooping, dns, featuredhcp, hsl, igmpsnooping, igmp, imiLogging, imi, interface, isis, keychain, lacp, lag, libsnmp, libsyslog, license, linktrack, lldpv2, mldsnooping, mld, mrib4, mrib6, mstp, nat, ndd, nsmsnmp, ntp, ospfv3, ospf, pbrport, pim4, pim6, pim, plist, pmirror, pserv, radius, ras, rib, ripng, rip, rtadv, sflow, snmp, ssh, switchportinterface, syslog, tacacs, telnet, tfo, usermgmt, vlan, vlog, vrf, vr, zebos Please check this link for details https://github.com/IPInfusion/OcNOS/tree/<release>/yang-files Note: All these Yang modules are auto generated from the data models. Hence any modification to this file is not recommended.			No

Feature Name	Standard	Comments	Exceptions	First Version Supported	Edgecore Platform
				Platform No >>>	AS-7716-24SC
NETCONF	RFC 6241, RFC 6470		Edit-config operation is configured to use "candidate" by default. Hence edit-config on running configuration is not supported. rollback-on-error: This is the default behaviour, hence the error-options of edit-config is not handled. delete-config: Target as candidate and running are not supported. validate: By default configuration entries are validated and stored, hence this operation and its parameters are not handled. External configuration store validation is not supported (i.e URL). XPath capability is not supported. Writable running capability is not supported. netconf-config-change is not supported (RFC 6470)		No
NETCONF - TRIM	RFC 6241	Support for with-defaults=trim capabilty has been added.			No
Hitless Merge		Merge operation done by netconf client will be hitless which means it has been handled such that there is not hit in the traffic when configurations are updated unless that is what is expected out of the operation done.			No
Patch Upgrade Mechanism with & without ONIE					No
Loopback and VTY based ACL					No
Licensing				1.0.0	Yes
Security					
General					
Secure interface login and password				1.0.0	Yes
SSH v1, v2		SSHv2 is qualified by QA		1.0.0	Yes
Storm control					No
Flow control	IEEE 802.3x				No

Feature Name	Standard	Comments	Exceptions	First Version Supported	Edgecore Platform
				Platform No >>>	AS-7716-24SC
DHCP Snooping					No
IP Source Gaurd					No
Access Control Lists (ACLs)					
Source IP address					No
Destination IP address					No
TCP/UDP source port					No
TCP/UDP destination port					No
IP protocol type					No
Source MAC address					No
Destination MAC address					No
Ethertype					No
TCP Flags, Protocol type, IP fragment flags, DSCP, CoS, IP precedence					No
Rule prioritization and Re sequence					No
On-fly modification					No
ARP type, sender MAC, sender IP, target MAC and target IP					No
Hardware-Specific Features					
General					
Switched port analyzer (SPAN)					No
Remote switched port analyzer (RSPAN)					No
Unified Forwarding Table (UFT)					No
Dynamic load balancing (RTAG7 hash)		Fields: L2 MAC addresses, ether type, L3 IP addresses, IP protocol type, and TCP/UDP port numbers		1.0.0	Yes
Port Breakout		Breakout 100G<-> 4X10G/4X25G/2X50G	Auto negotiation is not supported in 4X25G and 2X50G modes. Port Breakout not supported on Coherent optical slots	1.0.0	Yes
Hardware revision check		Verification done on, Product name, part number, label revision, broadcom chip version and CPLD version		1.0.0	Yes
TCAM space monitoring					No
TCAM space monitoring SNMP support					No
Chassis Monitoring					
Temperature monitor				1.0.0	Yes
Fan control				1.0.0	Yes
Power Monitoring				1.0.0	Yes
CPU load monitoring				1.0.0	Yes
Board information (EEPROM)				1.0.0	Yes
Fan and PSU FRU information					No
Hardware MIB and Traps				1.0.0	Yes
Digital Diagnostics Monitoring					

Feature Name	Standard	Comments	Exceptions	First Version Supported	Edgecore Platform
				Platform No >>>	AS-7716-24SC
Temperature monitor				1.0.0	Yes
Power Monitoring(Power, Current, Voltage)				1.0.0	Yes
Hardware MIB and Traps				1.0.0	Yes
Coherent Optics					
ACO line card support		1 x 100G/200G CFP2 module supported OCLARO (TRB100BA-02)		1.0.0	Yes
DCO line card support		1 x 100G/200G CFP2 module Supported LUMENTUM (TRB200DAA-01) and ACACIA (AC200-D13-005)		1.0.1	Yes
Module specific attributes: Enable/Disable module, Retrieval of vendor information, Retrieval of number of host/network interfaces, temperature, Voltage				1.0.0	Yes
NETIF specific configuration attributes: Soft-Tx-Disable, Tx-Power, Tx-Laser-Frequency, Modulation format, Differential Encoding, Shallow loopback type, PRBS		dp-16-qam, dp-qpsk modulation formats support on ACO module and dp-16-qam, dp-8-qam, dp-qpsk modulation formats support on DCO module, PRBS-31 support on ACO and PRBS-31, PRBS-15, PRBS-7 support on DCO		1.0.0	Yes
NETIF specific monitoring attributes: current-output-power, min/max laser-frequency, laser-grid-support, tx-grid-spacing, current-input-power, Current Post VOA Power, current-provisioned-channel-pow, current-tx-laser-freq, DSP-OperStatus, Current-PRE-FEC-BER, Current-Chromatic-Dispersion, PRBS-BER, Current-Q-Margin, Current-Uncorrected-Block-count			Current Post VOA Power not supported on DCO Current-Q-Margin, PRBS-BER, Current-Uncorrected-Block-count not supported on ACO	1.0.0	Yes
HOSTIF specific attributes: RS FEC type, Shallow loopback type				1.0.0	Yes
SNMP support for coherent optics				1.0.0	Yes
OSNR support		Only supported on DCO		1.0.1	Yes
Laser Age support		Only supported on DCO		1.0.3	Yes
Pre FEC BER support on HOSTIF		Only supported on DCO		1.0.3	Yes
Error counter support for FEC uncorrected block on HOSTIF and NETIF		Only supported on DCO		1.0.3	Yes
Error counter support for OTN Section BIP-8 on NETIF		Only supported on DCO		1.0.3	Yes
DDM support for Coherent Optics					
RxLOS alarm support				1.0.1	Yes
PCS alarms support				1.0.2	Yes

Feature Name	Standard	Comments	Exceptions	First Version Supported	Edgecore Platform
				Platform No >>>	AS-7716-24SC
FAWS support for input-Power, Pre-FEC-BER, Temperature, Voltage, module-general status		Only supported on DCO		1.0.2	Yes
User defined threshold for input-power and Pre-FEC-BER		Only supported on DCO		1.0.2	Yes